Air Dispersion Modeling

What is air dispersion modeling?

- An air dispersion model is a set of mathematical equations that relates the release of air pollutants from emission sources to the corresponding concentration of pollutants in the ambient air.

Why must an industry perform air dispersion modeling?

- Air dispersion modeling is one of the methods that may be used to show compliance with South Carolina Air Pollution Control Regulation 62.5, Standards no. 2, 3.1, 7, and 8.
- The Prevention of Significant Deterioration (PSD) regulations require major new construction to demonstrate that they will not cause a violation of the National Ambient Air Quality Standard (NAAQS).
- 40 CFR Section 51.110(k)(2) requires individual states to determine at least every 5 years if their State Implementation Plan (SIP) is adequate to meet the NAAQS in all areas of the state.

In terms of the permitting process, which facilities are required to submit air dispersion modeling?

- Most construction permits, including Prevention of Significant Deterioration (PSD) construction permits.
- Certain Title V Major, conditional major, and state operating permit renewals.

Are there any instances when a facility/source may be exempt from modeling requirements?

- A source may be exempt when construction permit applications are replacing sources already in existence. Certain requirements must be met to receive an exemption.

This fact sheet is intended as a summary of the modeling requirements, and is not all-inclusive. To obtain additional information regarding air modeling, you may contact the BAQ at (803) 898-4123, browse our Internet site at http://www.scdhec.gov/baq/, or write to the following address:

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